Sanitized Copy Approved for Release 2011/09/27 : CIA-RDP80-00809A000600370269-3

CLASSIFICATION

CONFIDENTIAL

CENTRAL INTELLIGENCE AGENCY

INFORMATION FROM

REPORT

50X1-HUM

COUNTRY

USSR

FOREIGN DOCUMENTS OR RADIO BROADCASTS

CD NO.

Scientific - Chemistry, nuclear physics

HOW

SUBJECT

PUBLISHED B-monthly periodical

WHERE

PUBLISHED

Moscow

Sep/Oct 1950

PUBLISHED LANGUAGE

Russian

DATE OF

INFORMATION 1950

Jan 1951

DATE DIST. 9

NO. OF PAGES

SUPPLEMENT TO

REPORT NO.

THIS IS UNEVALUATED INFORMATION

SOURCE

Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, No 5, 1950,

INVESTIGATION OF THE BROMINE EXCHANGE REACTION BY MEANS OF RADIOACTIVE ISOTOPES

A. F. Fialkov Yu. P. Nazarenko

This article reports on work, the results of which can be applied in the enrichment of radioactive isotopes. The report is not clearly written in the original Russian. 7

This paper deals with the basic results of an investigation of the systems metal bromides and nonmetal-bromine, and also of the systems made up of two different bromides. It was presented at the meeting of the Department of Chemical Sciences, Academy of Sciences USSR, and the Department of Physicomathematical and Chemical Sciences of the Ukrainian SSR which was held in Kiev 9 - 12 June 1950.

Bromides of 28 elements and nearly 60 different systems were investigated, many of them simultaneously /both? in solutions /and? in the molten state under the action of liquid and gaseous bromine on crystalline or molten bromides.

The results of the investigation permits formation of an idea on the mechanism of isotopic exchange of bromine applicable to various bromides and the clarification of the importance of factors which in some measure or other influence the exchange process, accelerating or retarding it. The homogeneity or heterogeneity of the system, the temperature and duration of the process, the structure of the bromides, their polarity and polarizability, the presence of free electron pairs at the central halogen atom or its ability to be an acceptor of electrons, and the saturation or nonsaturation of the bromide in question with regard to its ability to form coordination complexes belong to those factors.

The results of this investigation have very substantially supplemented data on the reaction of halogen isotope exchange. They have supplied a large number of new data and also a series of generalizations referring to the mechanism and the conditions of isotopic exchange.

- END -

			С	L٨	SSIFICATI	ON-	CONFIDENTIAL		<u> </u>
STATE	7	NAVY	7. 0.	X	NSRB	Π	DISTRIBUTION	31.5	
ARMY	X	AIR		X	FBI				